



What is claimed is:

CLAIMS:

1. A power supply circuit comprising at least one transformer which is connected to a primary side circuit and to a secondary side circuit,

wherein the primary side circuit and the secondary side circuit are each mounted on at least one separate circuit carrier, said circuit carriers being mechanically and electrically coupled with one another and arranged in at least two different planes.
2. The power supply circuit according to claim 1, wherein the plane defined by the at least one secondary side circuit carrier extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier.
3. The power supply circuit according to claim 1, wherein the primary side circuit is mounted on a plurality of primary side circuit carriers, the planes of which are substantially in parallel with one another.
4. The power supply circuit according to claim 1, wherein the at least one primary side circuit carrier is separated by an electrically insulating layer from the at least one secondary side circuit carrier.
5. The power supply circuit according to claim 1, wherein at least one of the circuit carriers comprises integrated resistors which can preferably be produced by thick film technology.

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6. The power supply circuit according to claim 1, wherein at least one of the circuit carriers comprises integrated capacitors of a medium dielectric strength.
7. The power supply circuit according to claim 6, wherein the integrated capacitors can be produced as a monolayer structure.
8. The power supply circuit according to claim 6, wherein the integrated capacitors can be produced as a multilayer structure.
9. The power supply circuit according to claim 6, wherein the integrated capacitors can be produced by introducing a dielectric precursor into recesses of the circuit carrier.
10. The power supply circuit according to claim 1, wherein at least one of the circuit carriers comprises integrated capacitors of a high dielectric strength.
11. The power supply circuit according to claim 10, wherein the integrated capacitors can be produced as a monolayer structure.
12. The power supply circuit according to claim 10, wherein the integrated capacitors can be produced as a multilayer structure.
13. The power supply circuit according to claim 10, wherein the integrated capacitors can be produced by introducing a dielectric precursor into recesses of the circuit carrier.
14. The power supply circuit according to claim 1, wherein at least one of the circuit carriers comprises discrete active and/or passive components.

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15. The power supply circuit according to claim 1, wherein the transformer is an electromagnetic transformer.
16. The power supply circuit according to claim 1, wherein the transformer is a piezoelectric transformer.
17. The power supply circuit according to claim 1, wherein at least one of the circuit carriers can be produced from a ceramic material.
18. The power supply circuit according to claim 1, wherein at least one of the circuit carriers is designed such that it discharges dissipated heat produced during operation to the outside.
19. The power supply circuit according to claim 1, wherein the individual circuit carriers are mechanically connectable to one another by means of joint sintering, adhesive bonding or soldering.
20. The power supply circuit according to claim 1, wherein the individual circuit carriers are electrically connectable to one another through vias in at least one insulation layer.
21. The power supply circuit according to claim 1, wherein it is surrounded at least in part by an electrically insulating coating.
22. The power supply circuit according to claim 21, wherein the electrically insulating coating is formed by a casting material.
23. The power supply circuit according to claim 15, wherein electrical components are integrated into a coil body of the transformer.

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24. The power supply circuit according to claim 16, wherein electrical components are integrated into a transformer mounting of the transformer.
25. A method for producing a power supply circuit comprising at least one transformer, a primary side circuit and a secondary side circuit, said method comprising the following steps:

mounting the primary side circuit on at least one primary side circuit carrier;

mounting the secondary side circuit on at least one separate secondary side circuit carrier;

electrically and mechanically coupling the circuit carriers with the transformer, the circuit carriers being arranged in at least two different planes.